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DHCP Client Configuration Commands



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Chapter 1 DHCP Client Configuration Commands

1.1 ip address dhcp {1-4094} [server-ip ip-address]

[Function]

This command is used to startup DHCP Client function under IP interface (for interface 0 only) and to obtain IP address and requested parameters by DHCP inside designated VLAN and DHCP Server IP address. The requested parameters contains gateway address, TFTP server name (option 66), TFTP server address (option 150) and configuration file name (option 67).

If option 150 is not supported by DHCP Server, DHCP Client is in support of configuring TFTP server address in option 66 as well.

[Command Format]

```
ip address dhcp [server-ip ip-address]{1-4094} [schedule-list list-no]
```

[Parameter]

ip-address: DHCP Server IP;

schedule-list: set schedule task start time, finish time, and time interval of periodic operation;

list-no: schedule list number range is <0-99>.

[Default]

Interface obtains IP not by DHCP.

[Command Modes]

IP interface configuration mode (for interface 0 only), Privileged user

[Executing Command Instruction]

The VLAN designated should be already created and IP interface located port belongs to this VLAN when using this command, or else the interface can not obtain IP by DHCP successfully. At the same time IP interface 0 gets IP address, it also get a default gateway that will become efficient after obtaining successfully. If the command has designated DHCP Server IP already, this operation only get IP address allotted by DHCP Server.

IP address obtained by DHCP and IP address configured by force will cover the former one if they two are identical.

IP interface 0 has already obtain IP address by DHCP. When executing command **ip address dhcp {1-4094} [server-ip ip-address]** and designate VLAN or server-ip different from VLAN for obtaining IP or server ip, the interface will release the already obtained IP and start to apply for a second time.

If IP interface 0 has already obtained IP by DHCP, it will extend the IP by automation.

Besides, only IP interface 0 support this command.

[Explanation of command execution echo]

1. Type out SYSLOG when IP interface 0 start getting IP by DHCP:

Acquiring IP address via DHCP.

Note: Other commands configuration is allowed to be operated synchronized with process of DHCP.

2. Type out SYSLOG when IP interface 0 gets IP by DHCP successfully:

Acquiring IP address successfully

3. Type out SYSLOG when IP interface 0 gets IP by DHCP unsuccessfully:

Acquiring IP address unsuccessfully

4. Executing command **ip address dhcp {1-4094} [server-ip ip-address]** after getting IP by DHCP, and designated VLAN or DHCP Server IP identical with VLAN for getting IP or DHCP Server IP:

This interface has been allocated address via DHCP in that vlan with same serve

5. Same VLAN at other IP interface with the specified VLAN:

Specified vlan already associated with other interface.

6. The system specified VLAN over total limit:

Too many Vlan set in all interfaces. The max total num is %d

7. The interface bound VLAN over total limit:

Too many vlan set in interface. The max num is %d.

8. Specified VLAN is a cluster VLAN:

Can not assign ip address for vlan %d(cluster)

9. The input DHCP Server IP is invalid:

Invalid server address.

10. The obtained IP is in the same network segment as other interface IP:

%s overlaps with interface %d

Acquiring IP address unsuccessfully

11. The system is operating DHCP Client:

Another DHCP Client process is running

12. The command is operated not in IP interface 0:

Only Interface 0 supports DHCP Client

13. DHCP Server or DHCP Relay has already been started:

Enable DHCP Client unsuccessfully. DHCP Server or DHCP Relay is enabled.

14. Executing DHCP Server startup command (use command **ip dhcp server** under config mode) after the DHCP Client has already started:

Enable DHCP Server unsuccessfully. DHCP Client or DHCP Snooping is enabled!

15. Executing DHCP Relay startup command (use **ip dhcp relay** command under config mode) after the DHCP Client has already started:

Enable DHCP Relay unsuccessfully. DHCP Client or DHCP Snooping is enabled!

Note: In the actual running as above description, %d or %s related to relevant interface number, IP address and VLAN number.

[Example]

Specifying vlan 1 to apply IP by DHCP under IP interface 0:

```
Raisecom(config-ip)# ip address dhcp 1
```

Specifying vlan 1 under IP interface 0 DHCP Server 20.168.0.2 to apply IP by DHCP:

```
Raisecom(config-ip)# ip address dhcp 1 server-ip 20.168.0.2
```

[Related commands]

Commands	Description
no ip address dhcp	Release the IP obtained by DHCP and other information under IP interface 0.
ip dhcp client renew	DHCP Client extension.
show ip dhcp client	Show configuration of DHCP Client and obtained information.

1.2 no ip address dhcp

[Function]

Release the IP obtained by DHCP and other information under IP interface 0, including gateway address, TFTP server name, TFTP server address and configuration file name.

[Command Format]

```
no ip address dhcp [schedule-list list-no]
```

[Parameter]

schedule-list: set schedule task start time, finish time, and time interval of periodic operation;

list-no: schedule list number range is <0-99>.

[Command Modes]

IP interface configuration mode (for interface 0 only), Privileged user

[Executing Command Instruction]

Release the IP obtained by DHCP and other information, including gateway address, TFTP server name, TFTP server address and configuration file name.

[Explanation of command execution echo]

1. The IP interface 0 release IP address successfully:

Release successfully.

2. The IP interface 0 release IP address unsuccessfully:

Release unsuccessfully.

3. The system is running a release operation now:

Another release process is running.

4. The command is operated not IP interface 0:

Only Interface 0 supports DHCP Client

5. The IP interface 0 has not obtained IP address by DHCP:

No support of release operation in this state.

[Example]

Release IP address under IP interface 0:

Raisecom(config-ip)# **no ip address dhcp**

[Related commands]

Commands	Description
ip address dhcp {1-4094} [server-ip ip-address]	Obtain IP address and other information by DHCP under IP interface 0.
ip dhcp client renew	DHCP Client extension.
show ip dhcp client	Show configuration of DHCP Client and obtained information.

1.3 ip dhcp client renew

[Function]

DHCP Client extension. DHCP Client will make extension by automation if users don't operate by force.

[Command Format]

ip dhcp renew [schedule-list list-no]

[Parameter]

schedule-list: set schedule task start time, finish time, and time interval of periodic operation;

list-no: schedule list number range is <0-99>.

[Default]

Automation extension by DHCP Client is of the same effect as operated by force.

[Command Modes]

IP interface configuration mode (for interface 0 only), Privileged user

[Executing Command Instruction]

This command is valid only if IP interface 0 has obtained IP by DHCP.

[Explanation of command execution echo]

1. Executing this command after IP interface 0 obtained IP by DHCP:

DHCP Client is renewing.

2. IP interface 0 extension successfully/unsuccessfully:

Renew successfully

Renew unsuccessfully

3. The IP interface 0 has not obtained IP or is obtaining IP by DHCP now:

No support of renew operation in this state.

4. The system is running another DHCP Client operation:

Another DHCP Client process is running

5. The command is operated not IP interface 0:

Only Interface 0 supports DHCP Client

[Example]

Extending IP interface 0:

Raisecom(config-ip)# **ip dhcp client renew**

[Related commands]

Commands	Description
ip address dhcp {1-4094} [server-ip ip-address]	Obtain IP address and other information by DHCP under IP interface 0.
no ip address dhcp	Release the IP obtained by DHCP and other information.
show ip dhcp client	Show configuration of DHCP Client and obtained information.

1.4 ip dhcp client {hostname *HOSTNAME* / class-id *CLASS-ID* / client-id *CLIENT-ID*}

[Function]

Configure DHCP Client hostname, class-id and client-id under IP interface 0.

[Command Format]

ip dhcp client {hostname *HOSTNAME* | class-id *CLASS-ID* | client-id *CLIENT-ID*}
[schedule-list *list-no*]

[Parameter]

HOSTNAME: the hostname;

CLASS-ID: class-id name;

CLIENT-ID: client-id name;

schedule-list: set schedule task start time, finish time, and time interval of periodic operation;

list-no: schedule list number range is <0-99>.

[Default]

HOSTNAME: RaisecomFTTH

CLASS-ID: RaisecomFTTH -ROS_VERSION

CLIENT-ID: RaisecomFTTH -SYSMAC- IF0

Thereinto: ROS_VERSION is ROS platform version; SYSMAC is device MAC address.

[Command Modes]

IP interface configuration mode (for interface 0 only), Privileged user

[Executing Command Instruction]

This command is used for DHCP Client specifying hostname, class-id and client-id. The length of them should not over 32.

[Explanation of command execution echo]

1. Configuration is successfully:

Set successfully

2. Configuration is unsuccessfully:

Set unsuccessfully

3. The input name is too long:

The input name is too long

4. The command is operated not IP interface 0:

Only Interface 0 supports DHCP Client

[Example]

Configuring hostname IP interface 0 to be myhost:

Raisecom(config-ip)# **ip dhcp client hostname** *myhost*

[Related commands]

Commands	Description
no ip dhcp client { hostname class-id client-id }	Renew hostname, class-id and client-id to default value.
show ip dhcp client	Show configuration of DHCP Client and obtained information.

1.5 no ip dhcp client {hostname | class-id | client-id}

[Function]

Renew hostname, class-id and client-id to default value.

[Command Format]

no ip dhcp client {hostname | class-id | client-id} [schedule-list list-no]

[Parameter]

schedule-list: set schedule task start time, finish time, and time interval of periodic operation;

list-no: schedule list number range is <0-99>.

[Default]

HOSTNAME: RaisecomFTTH

CLASS-ID: RaisecomFTTH -ROS_VERSION

CLIENT-ID: RaisecomFTTH -SYSMAC- IF0

[Command Modes]

IP interface configuration mode (for interface 0 only), Privileged user

[Executing Command Instruction]

This command is used to renew hostname, class-id and client-id to default value.

[Explanation of command execution echo]

1. Recover the configuration successfully:

Set successfully

2. The command is operated not IP interface 0:

Only Interface 0 supports DHCP Client

[Example]

Renew default hostname of IP interface 0 to default value:

Raisecom(config-ip)# **no ip dhcp client hostname**

[Related commands]

Commands	Description
ip dhcp client { hostname <i>HOSTNAME</i> class-id <i>CLASS-ID</i> client-id <i>CLIENT-ID</i>}	Renew hostname, class-id and client-id to default value.
show ip dhcp client	Show configuration of DHCP Client and obtained information.

1.6 show ip dhcp client

[Function]

Show DHCP Client configuration information and obtained information.

[Command Format]

show ip dhcp client

[Command Modes]

Privileged EXEC, Privileged user

[Executing Command Instruction]

Show DHCP Client configuration and obtained information. The configuration information contains hostname, class-id and client-id and obtained information includes IP address, subnet mask, default gateway, rent client length, start time and expire time, server address, TFTP server name, TFTP server address and configuration file name.

[Example]

Show DHCP Client configuration information and obtained information:

Raisecom#**show ip dhcp client**

```

Hostname:          RaisecomFTTH
Class-ID:          RaisecomFTTH -3.5.856
Client-ID:         RaisecomFTTH -000e5e48e596-IF0

Assigned IP Addr:  10.0.0.5
Subnet mask:       255.0.0.0

```

Default Gateway: **10.0.0.1**
Client lease Starts: **Jan-01-2007 08:00:41**
Client lease Ends: **Jan-11-2007 11:00:41**
Client lease duration: **874800(sec)**
DHCP Server: **10.100.0.1**

Tftp server name: **TftpServer**
Tftp server IP Addr: **10.168.0.205**
Startup_config filename: **2109.conf**

Note: a) Show below result if IP interface 0 has not startup DHCP Client:

Hostname: **RaisecomFTTH**
Class-ID: **RaisecomFTTH -3.5.856**
Client-ID: **RaisecomFTTH -000e5e48e596-IF0**

DHCP Client is disabled.

b) Show below result if IP interface 0 is obtaining IP by DHCP Client (the process is not finish yet):

Hostname: **RaisecomFTTH**
Class-ID: **RaisecomFTTH -3.5.856**
Client-ID: **RaisecomFTTH -000e5e48e596-IF0**

DHCP Client is requesting for a lease.

c) Show below result if IP interface 0 fails to apply IP address by DHCP Client:

Hostname: **RaisecomFTTH**
Class-ID: **RaisecomFTTH -3.5.856**
Client-ID: **RaisecomFTTH -000e5e48e596-IF0**

No lease information is available.

d) The contents in blue above are items not supported by DHCP Server. The DHCP Client show 0.0.0.0 in IP address format; and show nothing in string format.

e) if DHCP Server is not in support of option 150 (TFTP server address) and only in support of option 60 (TFTP server name), it is available to configure option 66 as TFTP server address, DHCP Client can also obtain the informatio and show it.

[Related commands]

Commands	Description
ip address dhcp {1-4094} [server-ip	Obtain IP address and other information

<i>ip-address]</i>	by DHCP under IP interface 0.
no ip address dhcp	Release the IP obtained by DHCP and other information.
ip dhcp client renew	DHCP Client extension.
ip dhcp client { hostname <i>HOSTNAME</i> class-id <i>CLASS-ID</i> client-id <i>CLIENT-ID</i> }	Configure hostname, class-id and client-id to default value.
no ip dhcp client { hostname class-id client-id }	Renew hostname, class-id and client-id to default value.



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